Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VII EXAMINATION - WINTER 2015

Subject Code: 172107		Code: 172107 Date:04/12/203	Date:04/12/2015	
Tir	-	Name: Surface Coating Technology 0:30am to 1:00pm Total Marks:	70	
		Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.		
Q.1	(a)	What is plasma? Explain plasma spray coating method. Give advantages and applications.	07	
	(b)	What is carburizing? Briefly discuss solid (pack) carburizing. How properties get improved with carburizing?	07	
Q.2	(a)	Explain Anodizing as a method of corrosion prevention. Give the role of barrier oxides in aluminum anodizing.	07	
	(b)	What is ion implantation? Describe the use of ion beam implantation in surface modification.	07	
	(b)	OR What are the basic aspects for the selection of surface preparation method? Explain vapour phase degreasing in detail.	07	
Q.3	(a)	What is shot peening? Explain working of this process. Give its advantages.	07	
	(b)	What is phosphating? Explain the phosphating process with suitable example. OR	07	
Q.3	(a) (b)	Discuss the importance of surface engineering. Explain shot blasting process for surface preparation. What is conversion coating? Describe the process steps for conversion coating.	07 07	
Q.4	(b) (a)	Define galvanizing. Explain hot dip galvanizing process in brief. Write process	07	
	(b)	controlling factors. Discuss principle of Electroplating & explain setup used for it with a neat sketch.	07	
		OR		
Q.4	(a)	Explain chemical vapor deposition process with mechanism, advantages. Disadvantages and applications.	07	
	(b)	Define electroless plating. Explain electroless plating with suitable example.	07	
Q.5	(a)	Explain Physical vapour Deposition (PVD) by evaporation. Explain how Multicomponent deposition is carried out in PVD.	07	
	(b)	Critically compare the Boronizing and Boronitriding processes.	07	
		OR		
Q.5	(a)	Explain sputtering method of Physical vapour Deposition. Give Mechanism of Sputtering.	07	
	(b)	Explain the carbonitriding process.	07	
